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## **Physiotherapists' role during hospital-to-home transition for older adults with hip fracture and mobility limitation. a research protocol**

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## **Abstract**

### **Introduction**

Functional deficits such as gait speed, muscle strength or reduced activities in daily living after discharge are predictors for hospital readmission for older adults with hip fractures. However, physiotherapists (PTs) who are inherently mobility experts, do not actively participate during the hospital-to-home transition of older adults with hip fractures in the developing countries, including Nigeria. This qualitative study aims to describe and explore how PTs working within inpatient rehabilitation units prepare older adults ( $\geq 60$  years) with a hip fracture for transfer to their home in the community.

### **Methods**

We will adopt Sally Thorne's Interpretive Description approach to purposively select 25 PTs with 5-years' experience of participating in discharging older adults with hip fractures from inpatient rehabilitation-to-home. Data collection will include (a) semi-structured, one-on-one interviews with PTs, (b) discharge summaries of two older adults, and (c) final focus group discussion with PTs. We will ask the physiotherapists to provide discharge summaries of two older adults - one that they described as a "difficult" case and one that they described as an "easy" case during inpatient rehabilitation-to-home transition. Data will be analyzed employing Sally Thorne's "borrowing techniques"- content and thematic analysis for the patients' discharge summaries and PT interviews, respectively.

### **Keywords**

Health Transition, Elderly, Mobility, Nigeria, Qualitative Inquiry

## Introduction

Hip fractures in older adults are projected to be a worldwide health problem soon.<sup>1,2</sup> Worldwide, the estimated number of hip fractures in older adults is expected to reach 6.3 million in 2050.<sup>3</sup> While there is no national directory that reports the incidence of hip fracture among older adults in Nigeria, there are individual studies that have explored the incidence of hip fracture among older adults in different regions in Nigeria. For instance, Adebajo et al.<sup>4</sup> reported a 2.1 per 100,000 and 2.0 per 100,000 incidents in hip fractures in men and women older than 50 years, respectively. Jervas et al.<sup>5</sup> reported an incidence of 10% and 17.38% in men and women 50 years and older, respectively, in Owerri, a state capital located in South-eastern Nigeria. Notably, this incidence in Nigeria is the lowest in the world, as noted in a systematic review of 72 articles from 63 countries that reported on the incidence of hip fracture.<sup>6</sup> However, it is projected that in the next 30 years, three-quarters of the world's older adults will reside in Africa.<sup>7</sup> This trend is likely to result in a significant increase in the number of hip fractures among older adults in Africa.<sup>6</sup> There is no official report on the economic cost of hip fracture management among older adults in Nigeria. However, anecdotally, the cost of managing hip fracture per individual in Nigeria is not less than NGN 10 million (equivalent USD, \$27,496.50), including surgical procedures (e.g. reduction or arthroplasty), medical, nursing and physiotherapy services. Since 98.6% of Nigerians pay out of pocket for most healthcare services including physiotherapy,<sup>8</sup> patients/relatives have reported a financial burden as a result of caring for older adults with hip fracture.<sup>9</sup>

Mobility deficits in older adults with hip fractures are often missed during hospital-to-home transitions.<sup>10–12</sup> Additionally, studies have reported that functional deficits such as gait, speed, muscle strength or reduced activities in daily living after discharge are independent functional predictors for hospital readmission for older adults.<sup>13,14</sup> Yet, mobility-related physiotherapy (PT) recommendations were omitted entirely in 53% and partially omitted in 47% from 163 patients discharge summaries.<sup>15</sup> Similarly, evidence shows that the use of walking aids after discharge following a hip fracture is rarely reviewed.<sup>16</sup>

Historically, PTs are rarely involved in care transition.<sup>17</sup> However, recently, PTs practicing in developed nations are considered as consultants during care transitions for older adults with hip fracture.<sup>18</sup> Hence, most studies that have investigated the experiences of PTs in the care transition of older adults with hip fractures were from developed nations. Toscan et al.<sup>18</sup> used a focused ethnographic approach to conduct 45 individual interviews, including 4 PTs. Results identified four factors related to poor transitional care: communication breakdown about care, unclear roles and responsibilities, weak personal ownership over the care and, role strains due to system constraints.

Similarly, Johnson et al.<sup>19</sup> reported that PTs' handoffs of patients with hip fractures in a rural healthcare setting in Canada were less successful, mostly when information transfer was untimely or incomplete. Furthermore, Glenny et al.<sup>20</sup> explored issues relating to information sharing during care transition from the perspective of patients/relatives and healthcare professionals in Ontario, Canada. They reported that limited staff time, patient privacy regulation and lack of a detailed structure guide to information sharing were all factors that affected information sharing during care transition. Recently, Stolee et al.<sup>21</sup> employed a framework-based synthesis approach to summarise key findings from 12 manuscripts that explored the experiences of healthcare professionals in care transitions. They reported two themes [system constraints and patients complexity] that are less amenable and six themes [patients involvement and choice, the role of family caregivers, relationships, role coordinator, documentation, and information sharing] that are amenable to interventions. While these factors were identified from the experiences of PTs

working in developed nations, there is no evidence from PTs working in a developing region. We postulate that there might be differences in the experiences of PTs in developed and developing contexts because the PT practice is different across the globe. For instance, PTs in developing countries (e.g. Nigeria) are considered "fixers" of the problem. Therefore, seeking opinions of patients/relatives during care often make patients/relatives lose "faith" in the competent skills and qualification of the PT.<sup>22</sup> Presumably, these factors that influence care transition in developed nations might be slightly different or perceived differently among PTs in developing contexts.

Besides, care transition practices are ill-defined in Nigeria. There are no explicit care transition models specific to the Nigerian context that addresses known risk factors of hospital readmission of older adults with hip fracture. These risk factors include comorbidities, access to care, social support, and impaired physical functioning.<sup>14</sup> Impaired physical functioning is amenable to physiotherapy interventions, and yet physiotherapists are not actively involved in care transition practices in Nigeria. We believe that developing a context-specific care transition that focuses on improving physical functioning during the hospital-to-home transition of older adults with hip fractures in Nigeria will help improve health outcomes. To achieve this, we believed that understanding the perception of PTs in Nigeria that are involved in the ill-defined care transition practices is warranted.

The purpose of this interpretive description study is to describe and explore how PTs working within inpatient rehabilitation units prepare older adults ( $\geq 60$  years) with a hip fracture and mobility limitations for transfer to their home in the community. This study will answer these specific questions: (a) What are the experiences of PTs during inpatient rehabilitation-to-home transition of older adults ( $\geq 60$  years) with hip fracture, and mobility limitation?, and (b) What are the barriers and facilitators for participating as an active member during inpatient rehabilitation-to-home transition of older adults ( $\geq 60$  years) with hip fracture and mobility limitation?

## **Methods**

### ***Research design***

Sally Thorne's Interpretive Description (ID) methodology will inform this study because it allows the description of a phenomenon through the lens of the researcher's professional philosophical practice.<sup>23</sup> This study is philosophically grounded in constructivism and naturalistic interpretive inquiry that allows the co-creation of knowledge by the researchers and the participants aimed at offering a practical solution to a clinical problem.<sup>23</sup> This approach will allow us to bring the analysis back into the context of the PT practice during care transition in Nigeria. For example, in this study, we will focus on identifying the potential pattern(s) or steps PTs prepare older adults with hip fracture during care transition.

We obtained ethical approval from the University of Port Harcourt Teaching Hospital Research Ethics Committee [UPTH/ADM/90/S.II/VOL.XI/739]. Participants will provide both oral and written informed consent before being allowed to participate in the study

### ***Researchers characteristics and reflexivity***

All the researchers are physiotherapists who are members of the Emerging Researchers and Professionals in Ageing-African Network ([www.erpaan.org](http://www.erpaan.org)). The principal author (MK), and four other authors (AO, HN, IA, OA) will be responsible for conducting interviews with participants. These five authors are experienced in conducting qualitative interviews and have published

several articles. Other authors will participate in the recruitment process and data analysis. All authors understand the research context, as all of the authors have practiced or are practicing in Nigeria. At the conceptualization of this study, the authors reflected and identified their "Subjective I's".<sup>24</sup> These "Subjective I's" are the values, beliefs and assumptions based on their experience as physiotherapists, gerontologists and/or researchers. Each author stated how these beliefs would influence the research questions, study design, data collection methods and analyses. This approach will help us not to direct our conscious ideas to something to analyzing and interpreting our findings.

### ***Setting and Sampling***

This current study will be conducted across the inpatient rehabilitation units of various teaching hospitals in Nigeria. There are six geopolitical zones in Nigeria, and we will recruit participants from at least one hospital in each of the geopolitical zones. Examples of such facilities include National Orthopaedic hospitals, Lagos (south-west), University of Port Harcourt Teaching Hospital (south-south), University of Nigeria Teaching Hospital, Enugu (south-east), National Orthopaedic Hospitals, Dala, Kano (north-west), University of Maiduguri Teaching Hospital, Borno (north-east), and Jos University Teaching Hospital (north-central). These hospitals are appropriate settings for the study because they are (a) established hospitals with rehabilitation units for older adults with hip fractures, and (b) would have PTs with rich experience as it relates to care transition from inpatient rehabilitation-to-home in their community.

We will employ a criterion-based purposive sampling. We will invite a licensed PT to participate if (a) had a minimum of 5 years' experience in the inpatient rehabilitation in any of the listed hospital above; (b) self-identified as having worked as an active member of a discharge team for older adults with hip fracture and mobility issues; (c) employed full time and; (d) proficient in the English language. These criteria are to ensure that we invite PTs who have relevant experience in preparing older adults with hip fracture and mobility issues for transfer from inpatient rehabilitation-to-home.

We will recruit a sample of 25 PTs or recruit until data saturation is reached. We will achieve data saturation when further interviews and analyses yield no further information on PTs preparing older adults with hip fracture and mobility issues from inpatient rehabilitation-to-home transition. We will look for perspectives from PTs in each geopolitical zone. This approach will help us stretch out the diversity of data as far as possible, just to make sure that saturation is based on the broadest possible range of data on every theme.<sup>25</sup> We will initially invite two participants from each of the hospitals in the geopolitical zones described above. Participants will be recruited through flyers, poster invites and word of mouth. We will triangulate the data by asking PTs [whom we have interviewed] to provide patients' discharge summaries for analysis.<sup>23</sup> Each of the 25 PTs will retrospectively identify discharge summaries of two older adults - one that they describe as a "difficult" case and one that they describe as an "easy" case (extreme/ deviant case sampling).<sup>26</sup> However, triangulation will stop when there is no new theme emerging. Table 2 shows an example of information to be extracted from the patients' discharge summaries.

### ***Data collection***

We will explain the study aims, risks, benefits of participation, confidentiality, anonymity and participants' right to withdraw from the study to the participants. Data collection occurring for six months will include (a) semi-structured, one-on-one interviews with PTs, (b) patients discharge

summary analysis and, (c) final focus group discussion with PTs. This multi-mode method of data collection will enable us to understand in-depth how PTs prepare older adults with hip fracture and mobility limitations from inpatient rehabilitation-to-home transition. We will conduct two pilot interviews with the semi-structured interview guide developed through the review of the theories of care transitions described in Kalu et al. 's study.<sup>17</sup> Each PT will be invited to participate either face to face or via telephone in semi-structured interviews (see Table 1), lasting between 40-60 minutes.

Each PT will be interviewed at least twice because multiple interviews allow for in-depth exploration into the social, contextual and personal experience of PTs in preparing older adults with hip fracture and mobility issues from inpatient rehabilitation-to-home transition.<sup>23</sup> The first interview is to understand PTs experience and scope of practice as it relates to older adults with hip fracture and mobility issues transfer from inpatient rehabilitation to their home. Participants will be asked to provide two discharge summaries of older adults, as described in the sampling method above. We will invite the participants for a second interview if we need further insight on (a) who reported the information in the discharge summaries? (b) when the information reported on admission, during admission or upon discharge occurred? and (c) why the information was reported? Therefore, not all participants will be invited for the second interview. We intend to collect and analyze data concurrently; hence additional probes that would deviate from the central questions may be added to explore into more detail the evolving themes. We shall conduct a final focus group discussion with six PTs, each from the geopolitical zone. We will present the summary of our findings in the focus group and discuss the next step as it relates to co-developing physiotherapy-led care transition model of care for older adults with hip fracture during inpatient rehabilitation-to-home transition.

### ***Data analysis***

We will employ the "borrowing techniques" of ID during the data analysis of this study.<sup>23</sup> We will dedicate an analytic memo process throughout the analysis phase.<sup>27</sup> This memo will contain analytical notes, a list of themes, questions and patterns that emerged in the data.<sup>24</sup> We will maintain an audit trail that captures methodological decisions made throughout the analysis and during the brainstorming session with co-researchers.<sup>23</sup> We will analyze the PTs interviews/focus group discussions and patients' discharge summaries using thematic and conventional content analyses, respectively. First, we will commence early analysis that comprises data immersion through journaling and handwritten field notes to develop an understanding of the real data from the perspective of PTs. Second, multiple coders (at least three researchers) will analyze at least five interviews, meet and discuss each coding scheme to identify early patterns and connections in the data set. Third, we will produce a working draft coding scheme and applied as data collection and analysis continues. We will employ *Line-by-line* coding as an analytical depth strategy to preserve the context of the PT's experience.<sup>23</sup> Fourth, the final themes of the individual interviews will be triangulated with the themes that emerged from the discharge summaries of the older adults. All data analysis will be managed in NVivo Software©.

### ***Strategies to promote rigour/trustworthiness.***

We will enhance credibility by maintaining reflexivity, triangulation of multiple data sources, e.g., the Interviews with the PTs and older adults' discharge summaries analysis.<sup>28</sup> As a form of member checking, we will provide a summary of the themes that emerge from the study to the participants for their feedback. A thick description of the participants and study setting will be provided in any written document to allow the reader to have enough information to judge how our study findings

can be applied to their context [Transferability].<sup>29</sup> We will develop a coding workbook that will be used in a standard way by coders during the coding process.<sup>30</sup>

### **The potential contribution of findings**

The physiotherapy-led care transition model is lacking, even though functional deficits represent an independent risk factor for hospital readmission for older adults with hip fractures.<sup>14</sup> The findings from this study will provide experiences of PTs involved in an ill-defined inpatient rehabilitation-to-home transition. This information will inform the co-development of physiotherapy led-care transition for older adults with hip fractures in a low resource country. With the knowledge that poor communication is one of the barriers that hinder effective and efficient hospital-to-home transition, we aimed to focus more on providing recommendations to enhance effective communication.

Furthermore, among older adults with hip fractures discharged home, the most crucial health outcome is the ability to ambulate at home and in their community. Therefore, understanding how physiotherapists, who are experts in enhancing mobility, would prepare older adults with a hip fracture for inpatient rehabilitation-to-home transition is warranted to provide a context-specific intervention to improve ambulation after discharge.

However, the potential limitation to the findings of this study is its applicability to care transitions that are heavily focused on other healthcare professions other than PTs. For instance, since most of the care transitions are led by nurses, caseworkers (social workers) or physicians, some aspects of our findings may not apply to them. This is because our approach to solving this clinical problem will be informed by both the theoretical and disciplinary orientation of the PT profession explained in the research design section above. Nevertheless, most of the aspects of our research findings can resonate with HCPs that have similar theoretical and disciplinary orientations like occupational therapists.

Another potential problem would be our recruitment strategy. Since few physiotherapists in Nigeria are actively involved in the hospital-to-home transition, recruiting participants might be difficult. We intend to provide incentives (e.g. gift cards) to participants after participating in the study and would use snowballing techniques. We might not be able to conduct face-to-face interviews with physiotherapists. We shall incorporate several approaches such as telephone, skype or zoom interviews.

### **Conclusions**

The findings will provide information that would inform the development of mobility enhancement care transition specific to the developing world context. Publishing a qualitative protocol is one of the recommended strategies to ensure rigour in qualitative studies. This approach will allow for the credibility and reproducibility of the research findings in a similar research context.

### **Competing Interests**

We have no conflict of interest to declare.



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**Table 1: Interview guide to describe physiotherapists' role during inpatient rehabilitation to home transition for older adults with hip fracture and mobility limitation**

Preliminary questions	Examples of probes
How would you describe your role in your clinic or hospital?	<ul style="list-style-type: none"> <li>Information regarding age, sex, marital status, highest educational qualification, type of facility of practice, years of practice with older adults with hip fracture, 60 years and above with mobility limitation, state of practice.</li> </ul>
How would you describe transitions of care?	<ul style="list-style-type: none"> <li>Describe your thoughts on the role PTs play during transitions of care for older adults with hip fracture and mobility issues?</li> </ul>
How would you describe a typical care transition for an older adult with hip fracture and mobility issues from this inpatient rehabilitation unit to their home?	<ul style="list-style-type: none"> <li>How were patients/relatives involved in this process?</li> </ul>
What are your experiences in the health care team during this transition?	<ul style="list-style-type: none"> <li>How do collaborations work in your hospital during care transition?</li> <li>How would you describe the roles of other healthcare members?</li> </ul>
How is communication handled during this care transition in your team? E.g. whose role, who initiates it, when and at what stage of the transition.	<ul style="list-style-type: none"> <li>You have identified some communications issues; describe the strategies that you have employed to enhance communication.</li> </ul>
What is your main focus or/and patient focus during the transition from inpatient rehabilitation to home in their community?	<ul style="list-style-type: none"> <li>How did you communicate this focus to the patient?</li> </ul>
Describe the processes involved in follow-up during care transition?	<ul style="list-style-type: none"> <li>What are the specific examples?</li> <li>Describe when and how you identify older adults with hip fracture who were at higher risk of mobility difficulties after discharge?</li> </ul>
<p>Is there any issue related to transition of care for older adults with hip fracture and mobility issues from this inpatient rehabilitation unit to their home in the community that we have not talked about that you would like to share with me?</p> <p>Thank you for participating.</p>	

**Table 2: Examples of information to be extracted from patients discharge summary**

- Pre-discharge mobility status information, such as outcome measures. Outcome measures may comprise physical, psychological, social, economic and environmental determinants of mobility.
- Timeline referral: When was the physiotherapist invited during the care transition (if invited).
- Post transition supports such as statements providing information for community services for mobility enhancement
- Checklist and written instructions about the transition of care for patients, family members and care providers. An example of the content of the written instruction could be home exercise prescription.